WHAT IS CLAIMED IS:

1. An optoelectronic-device substrate including a memory-cell array including a plurality of memory cells that is arranged in matrix form and digitally driven and a pixel electrode for retrieving pixel data stored in the memory cells as an electrical signal,

wherein each of the memory cells has a phase-inversion circuit for inverting the phase of transmitted pixel data and a data-inversion signal whose phase is inverted by the phase-inversion circuit is transmitted to the pixel electrode.

2. An optoelectronic-device substrate according to Claim 1, wherein each of the memory cells comprises:

a storage unit for storing the pixel data;

a first analog switch for generating the data-inversion signal, based on the phase-inversion signal; and

a second analog switch for switching between the data-inversion signal from the first analog switch and a zero-data signal,

wherein the data-inversion signal is selected when the pixel data is stored in the storage unit and the zero-data signal is selected when the pixel data is not stored in the storage unit so as to be transmitted to the pixel electrode.

3. An optoelectronic-device substrate according to Claim 2, wherein the phase of the data-inversion signal is shifted so that the potential of the data-inversion signal is switched between the plus side and the minus side with reference to the potential of the zero-data signal as an approximate center potential.

4. An optoelectronic-device substrate according to Claim 2, wherein the storage unit is formed as an SRAM.

5. An optoelectronic-device substrate according to Claim 1, wherein the memory-cell array comprises:

a plurality of first signal lines for connecting one group of address terminals included in one group of the memory cells in parallel, the one group of the memory cells being provided along a row direction;

a plurality of second signal lines for connecting one group of data terminals included in one group of the memory cells in parallel, the one group of the memory cells being provided along a column direction; and

a plurality of third signal lines for connecting one group of phase-inversion terminals included in one group of the memory cells in parallel, the one group of the memory cells being provided along the row direction or the column direction,

and wherein the optoelectronic-device substrate further comprises:

a first driver circuit for transmitting address signals in sequence to the memory cells via the plurality of first signal lines, the memory cells being provided along the row direction;

a second driver circuit for transmitting the pixel data to the memory cells at one time via the plurality of second signal lines, the memory cells being provided along the column direction; and

a third driver circuit for transmitting phase-inversion signals to each group of the memory cells via the plurality of third signal lines, the group of the memory cells being provided along the row direction or the column direction.

6. An optoelectronic-device substrate according to Claim 4, wherein the third driver circuit has a phase-inversion circuit for inverting the phase of the pixel data and the phase-inversion circuit inverts the phase of the pixel data before the pixel data is transmitted to the memory cells.

7. An optoelectronic-device substrate according to Claim 1, wherein the memory-cell array comprises:

a plurality of first signal lines for connecting one group of address terminals included in one group of the memory cells in parallel, the one group of the memory cells being provided along a row direction;

a plurality of second signal lines for connecting one group of data terminals included in one group of the memory cells in parallel, the one group of the memory cells being provided along a column direction; and

a plurality of third signal lines for connecting one group of phase-inversion terminals included in one group of the memory cells in parallel, the one group of the memory cells being provided along the row direction or the column direction,

and wherein the optoelectronic-device substrate further comprises:

a row-address-decoder driver circuit for transmitting row-address data for selecting any of rows of the memory cells via the plurality of first signal lines, the memory cells being provided along the row direction;

a column-address-decoder driver circuit for transmitting column-address data for selecting any of columns of the memory cells via the plurality of second signal lines, the memory cells being provided along the column direction, and the pixel data output to the memory cells designated by the row-address data and the column-address data; and

a phase-inversion driver circuit for transmitting a phase-inversion signal to each group of the memory cells via the plurality of third signal lines, the each group of the memory cells being provided along the row direction or the column direction.

8. An optoelectronic-device substrate according to Claim 7, wherein the phase-inversion driver circuit has a phase-inversion circuit for inverting the phase of the pixel data,

and wherein the phase-inversion circuit inverts the phase of the pixel data in a predetermined cycle regardless of the number of the memory cells whose display information is rewritten according to the pixel data.

9. A digitally-driven liquid-crystal display for driving a liquid crystal layer provided between an optoelectronic-device substrate according to claim 1 and a counter substrate having a common electrode for supplying a voltage whose potential is equivalent to the potential of the zero data transmitted to the optoelectronic-device substrate.

10. An electronic apparatus having a display unit for displaying an image through the digitally-driven liquid-crystal display according to Claim 9.

11. A projector having a light-source unit for supplying projection light, a digitally-driven liquid-crystal display according to Claim 9, a control circuit for controlling the digitally-driven liquid-crystal display, and a projection-lens system for magnifying and projecting an image of the digitally-driven liquid-crystal display.

12. A method for driving an optoelectronic-device substrate comprising a memory-cell array including a plurality of memory cells that is arranged in matrix form along a row direction and a column direction and that is digitally driven, and a pixel electrode for retrieving pixel data stored in the memory cells as an electrical signal, the method comprising:

a phase-inversion process for inverting the phase of the pixel data before the pixel data is transmitted to the memory cells, or inverting the phase of the pixel data after the pixel data is transmitted to the memory cells.

13. A method for driving an optoelectronic-device substrate according to Claim 12, wherein, in the phase-inversion process, the pixel data is subjected to pulse-width modulation, one frame is divided into a plurality of sub frames, the potential of the zero-data signal is determined as an approximate center potential, and the potential and phase of the pixel data are shifted to the plus side and the minus side so that display data in the sub frames is shifted with about one-half cycles.

14. A method for driving an optoelectronic-device substrate according to Claim 12, wherein, in the phase-inversion process, the memory cells provided along the row direction are selected in sequence and the phase of the pixel data is inverted at the same time.

15. A method for driving an optoelectronic-device substrate according to Claim 14, wherein, in the phase-inversion process, a cycle with which the phase-inversion signal is transmitted to the memory cells provided along the row direction and a cycle with which the pixel data is transmitted to the memory cells provided along the row direction are made variable so that the cycles can change in synchronization, whereby a cycle of the sub frames is made variable so as to present gray scale.